

The Development of Learning Management Process to Enhance the Competency of Student Teachers in Designing Instructional Package to Develop Creativity of Early Childhood by Using Problem-Based Learning and Lesson Study Approach

Asst. Prof. Dr. Jutiporn Assawasowan

Faculty of Education, Nakhon Si Thammarat Rajabhat University, Email: assawasowan@hotmail.com

Abstract

This action research aimed to 1) develop learning management process to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach, and 2) study the results of the competency in designing instructional package after developed learning management process. The target group was 58 students in the early childhood education program of the Faculty of Education, Nakhon Si Thammarat Rajabhat University, and attended a promoting creative thinking course during the second semester of the academic year 2019. This research divided into 3 phases 1, drafting the learning management process, 2, trial the learning management process, and 3, proved the learning management process. The research instruments are (1) performance competency assessment form, (2) cognitive competency assessment form, (3) attitude competency assessment form, and (4) satisfaction questionnaires.

The research results reveal that; 1. Learning management process composes of 4 steps; - (1) thinking and understanding problems together, (2) instructional package designing suited to early childhood, (3) trail the process in school, and (4) publishing the package and lesson summary. 2. The competency in designing instructional package after developed learning management process found that (1) student teachers have an excellent level of performance competency (2) have a good and very good level of cognitive competency (3) have the highest level of attitude

Keywords: Learning Management Process, Competency of student teachers, Instructional Package creativity of early childhood, problem-based learning, lesson study approach

competency and (4) satisfied with learning management process at the highest level.

Statement of the problems

Competency is the abilities of the person to apply knowledge, skills, attitudes, and attributes that they have or have learned to apply in situations such as working, learning, living, and problem-solving as good to some extent. The competency-based curriculum is, therefore, a curriculum that is aimed at performing skills (at the application level) is not just knowing and having knowledge only (Independent Committee for Educational Reform and The Secretariat of the Council of Education, 2019), so this curriculum is necessary to specify what students can do and then determine what students should know in order to be able to do. The competency-based curriculum shall use the skill as a conductor with knowledge and attitudes, attributes as support.

The National Education Act, B.E. 2542 (1999) placed importance on the development of teachers, faculty staff, and educational personnel by stipulating the operating principles in Chapter 7 of teachers, faculty staff and educational personnel, Section 52 that "the Ministry shall promote the development of a system for teachers and educational personnel, including production and further refinement of this category of personnel, so that teaching will be further enhanced and become a highly respected profession. The Ministry shall, in this regard, take a supervisory and coordinating role so that the institutions responsible for production and development of teachers, faculty staff, and educational personnel shall be ready and capable of preparing new staff and continually developing in-service personnel (Office of the National Education Commission (2000).

Nakhon Si Thammarat Rajabhat University is an institute of higher education for local development and a teacher production institute. Therefore, it plays an important role in the management of appropriate instructional in order to develop the competency of student teachers to get ready for becoming a teacher in the future; which student teachers should be developed in all aspects of teacher's competency, especially student teachers in early childhood education program who should be able to design instructional package after developed learning management process because early childhood develops between ages of 0-6 years, which is a window of opportunity. At this age, the brain grows rapidly. If the child is developed and is stimulated in the correct method, it helps to reinforce a complete physical, emotional, mental, social, and intellectual integrity (Office of the National Education Commission, 2000). For this reason, the development of creativity in early childhood is at the heart of children's learning of this age, because during the first six years of life, the child has high imaginative thinking and creative potential is developing.

Creativity is a valuable characteristic to individuals and society, being an indication of human quality that may be showed in the form of action, productivity, new invention, new discovery, expressing new ideas, or new problem-solving ability that are an important part of human development which can be built more with constant practice; therefore, it deserves to be motivated and encouraged to happen in schools. All children who are born have creativity (Malakul Na Ayutthaya, 1994), but whether the creativity will be shown or not it depends on

those involved who will provide an atmosphere to support the child to use their creative efforts, increase, decrease, or whether there is an opportunity to demonstrate or not depends on environment and promotion of children's potential development. Creativity is arisen from learning or as a result of a condition or experiences around the individual, instructional package, setting the atmosphere, material, and equipment selection as well as teaching methods to help encourage children to be creative, dare to think, dare to try and dare to imagine (Phanmanee, 2014). Student teachers in early childhood education programs have to learn to design instructional packages to develop early childhood creativity.

The researcher, as a lecturer who teaches promoting creative thinking course in Bachelor of Education Program, Faculty of Education, Nakhon Si Thammarat Rajabhat University, therefore, have to design the learning management process for student teachers in early childhood education program who enroll in promoting creative thinking course to have competency in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach. It is learning that is student-centered and teaching with a concept that aims to maximize students' maximum benefit by being more involved in instructional. Students will learn by doing analytical, practical, problem solving, and doing research on their own based on their interests, abilities, and potential of students and also aims for students to apply their knowledge and experience to use in real life. Student teachers in the early childhood education program should have competency in designing instructional package to develop the creativity of early childhood to be used to build teaching experience for teacher professional and become a good teacher.

This problem-based learning is recognized as instructional that provide experiences, challenge ideas, characters and practice together with problem-solving to motivates students to learn how to solve problems through inquiry-based and learning through self-discovery (Suwannoi, 2019) and lesson study approach as teamwork which is a concept of professional teacher development on self-development of teachers in the context of real work in their classes and schools through the collaborative working of teachers by jointly choosing the lessons that shall teach to study steps of Lesson Study Process until gained quality lessons that can develop students' learning truly, including teachers can be learned from the development of that lesson also. (Woranetsudathip, 2011). Therefore, the researcher uses the lesson study approach to train student teachers to work collaboratively. The term "lesson" based on the concept of lesson study approach has meaning covered three aspects as follows: 1) Lesson refers to instructional management plan 2) Lesson refers to instructional management in teacher's classroom as planned including using of instructional media and equipment 3) Lessons refer to the learning of students, maybe a concept, knowledge, attitudes, and skills of various processes.

As a result of the reasons, concepts, and principles mentioned above, the researcher was interested in

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developing a learning management process to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach. The results of this research will make learning management of teacher curriculum more focused on student teachers' competency.

Research Questions and Problem

- 1) What are the main characteristics, principles, and procedures of the learning management process to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach?
- 2) After student teachers have studied according to developed learning management process, they have competencies of cognitive, attitude and performance that can design instructional package to develop the creativity of early childhood and apply to develop the creativity of early childhood or not and how?

Objectives

1. Develop a learning management process to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach.
2. Study the results of competency in designing instructional packages after developed the learning management process.
3. Study student teachers' satisfaction with the developed learning process.

Research methodology

Conceptual Framework

Development of learning management process to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach has a conceptual framework as in illustration 1.

Illustration 1. Conceptual Framework

Population

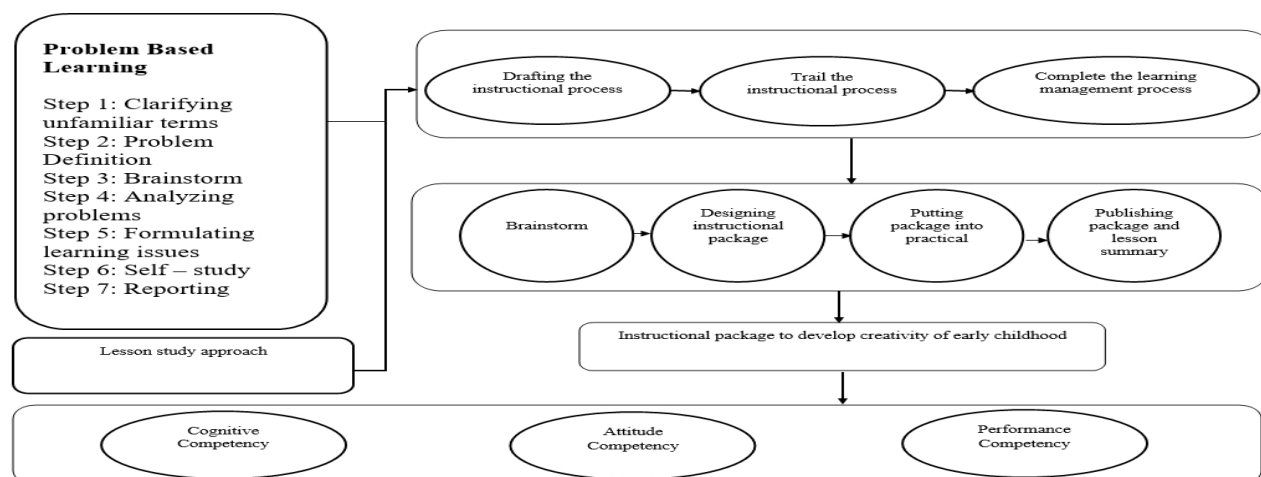
The population/target group used in this research were 58 students in the early childhood education program of the Faculty of Education, Nakhon Si Thammarat Rajabhat University and attended a promoting creative thinking course during the second semester of the academic year 2019.

Content and Timeline

This research used content based on the description of promoting creative thinking course namely, meaning, theory, analytical thinking and steps of creativity occurrence, characterization of creative individuals, factors affecting creativity, the setting of atmosphere and

develop the creativity of early childhood of students teachers. The researcher conducted this research based on the action research cycle, which divided into 3 phases with the instructional package as follows:

Phase 1: Drafting the learning management process; the researcher study basic information to develop learning management process by 1) Study students' problem condition in designing instructional package to develop the creativity of early childhood 2) Study the basic information on enhancing competency for student teachers, methods, concept, and theory involved in developing competencies. The important concept is problem-based learning and lesson study approach 3) Research planning; plan for data collection and audit to



instructional package to develop creativity, roles of teachers and family members in promoting creativity, using the test to measure creativity, instructional package to promote creativity, the second semester of the academic year 2019 between November 2019 - February 2020.

Research Operational

This research is action research aimed at developing the instructional process to enhance the competency of student teachers in designing instructional package to

obtain research results that are consistent with objectives 4) Drafting the learning management process by using problem-based learning and lesson study approach in 4 steps: (1) thinking and understanding problems together (2) instructional package designing suited to early childhood (3) trail the process in school, and (4) publishing the package and lesson summary and guidelines of learning management process in each step and 5) Audit the appropriateness of learning management process draft by three experts who commented with 1-5 Likert Scale which the experts

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assessed that the suitability at a good level with a mean of 4.01, a standard deviation of 0.46 and improve based on suggestions of experts.

Phase 2: Trail the learning management process; the researcher proceeds as follows: 1) plan to study the results of using developed learning management process by creating instruments for competency data collection in designing instructional package to develop the creativity of early childhood of student teachers, amount of 4 copies, namely (1) cognitive competency assessment form which is a subjective test of 7 clauses (2) attitude competency assessment form; students do self-assessed based on learning outcomes in 5 aspects, characterized by 5 Likert Scale (3) performance competency assessment form; a measure of ability in designing instructional package to develop the creativity of early childhood with the researcher-created assessments, amount of 4 indicators, totaling 14 items. Each assessment results with five scoring rubrics, 85-100% score is an excellent level, 75-84% score is a very good level, 65-74% score is a good level, 50-64% score is fair to level 2) organize a developed learning management process from January to April 2020 for the total period of 4 months and collected various competency data by using researcher-created instruments 3) qualitative analysis by using content analysis, classification of data types and selecting important information to show as evidence and quantitative data analysis by finding frequency, percentage, mean and standard deviation; and 4) improving the second time of learning management process from study and reflecting thought from the actual learning management context.

Phase 3: proved the learning management process by measuring satisfaction with developed learning management process, 5 Likert Scale, knowledge exchange meeting, presenting research results based on objectives, summarize research results, discussing research results

and provide suggestions.

Venue for test/data collection

1. Use the venue to test student teachers in the early childhood education program of the Faculty of Education, Nakhon Si Thammarat Rajabhat University, and attend promoting creative thinking course during the second semester of the academic year 2019.

2. Competencies data collection, including (1) operational competency is designing instructional package to develop the creativity of early childhood and trail the process in school (2) Cognitive competency with subjective test of 7 clauses (3) attitude competency based on learning outcomes in 5 aspects, characterized by 5 Likert Scale and (4) assessed students' satisfaction with the developed learning process, characterized by 5 Likert Scale.

Research results

1. The research results in a developed learning management process.

Developed learning management process encourages student teachers to learn through practice by bringing problems to motivate students to learn. The main character is learning management that focuses on the students' competencies and goals are skills to do. (at applying level). The learning management of this course, therefore, identifies the skills that students must do: Students shall need to design an instructional package to develop the creativity of early childhood, which is a conductor, and then determine what students should know to be able to do. That is having cognitive and attitude, which is a feature that always supports— learning management to enhance student teachers' competencies in designing instructional package to develop the creativity of early childhood. The performance specifications are shown in Table 1.

Table 1. Show defined competency in learning management to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood

Student-teacher competency	Performance skills		Cognitive		Attitude
	Process	Objective	Content	Objective	Learning outcomes
Designing an instructional package to develop the creativity of early childhood	1. thinking and understanding problems together	1. Make an understand vocabulary 2. Specify problems or important information together. 3. Analyze problems, explain linking of information or problems 4. Explain the problems or information found.	It is the meaning of theory, analytical thinking, and steps of creativity occurrence.	1. Be able to tell the meaning of creativity. 2. Be able to explain the theory, analytical thinking, and steps of creativity occurrence.	1. Ethics - Accepts responsibility - On-time - Self-disciplined - Works well with others 2. Knowledge gained - Cognitive after class
	2. Instructional package designing suited to early childhood.	1. Be able to use reasonable supporting concepts and theories and be able to reference. 2. Be able to use instructional plans to comply with the instructional package 3. Be able to use instructional media and equipment suitable for the content and age of students.	- Characteristics of a creative person - Factors affecting creativity. - Setting of atmospheres and instructional package to develop creativity.	1. Be able to explain characterize a creative person 2. Be able to explain the factors affecting creativity. 3. Be able to explain the setting of atmosphere and instructional package to develop creativity. 4. Be able to explain the roles of teachers and family members in promoting creativity	3. Intellectual skills - Ability in work planning - Ability in problem-solving - Ability in thinking of presentation style 4. Interpersonal skills and responsibilities - Building relationship between groups - Ability on being a leader - Ability on being a follower
	3. Trail the process in school	1. Real trial with students. 2. Manage instructional in the teacher's classroom as planned. 3. Assess student performance to correct based on creativity scoring criteria 4. Students learn and work	- Roles of teachers and family members in promoting creativity - Using the test to measure creativity.	5. Be able to explain using the test to measure creativity.	5. Numerical analysis skills - Internet information searching skills - Skills in using communication technology

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		together with happiness.					
	4. Publishing the package and lesson summary	1. Attractive presentation 2. Accuracy of information and knowledge 3. Performance has strengths and interesting, reflecting new ideas.					- skills in using equipment and IT for presentation

The four key steps of the learning management process that takes a period of time throughout one-semester focus on performance skills, which are the main competencies that students must achieve as follows:

Step 1: Thinking and understanding problems together

Being a step where lecturers will set the problem of course "Can creativity of early childhood be developed or not? and how can teachers design instructional package to develop the creativity of early childhood?" Therefore, students developed the lesson study approach by joining groups of 4-5 students voluntarily as follows:

- 1) Once students received the question, they shall understand or clarify the vocabulary in question to be on the same page.
- 2) Catch key issues or identifying problems.
- 3) Brainstorm to analyze problems, discuss to find an explanation of each problem, how it happened, and what is background by relying on existing knowledge of students.
- 4) Make hypotheses to find answers to each problem and rationally prioritize assumptions.
- 5) From made hypotheses, students will assess what knowledge they have, still unknown or lack of, and what knowledge will be needed to develop an instructional package to develop creativity. At this step, the group defines a learning issue or learning objective in order to further research.
- 6) Each student will research and study more from learning resources such as teaching documents, books, textbooks, journals, instructional media, the internet, or consulting with expert teachers in specific fields, etc., along with assessing the accuracy.
- 7) Student in each group uses information or knowledge to synthesize, explain and apply them to suit question to develop an instructional package to develop creativity along with summarizing as a general concept or principle

Step 2: instructional package designing suited to early childhood

Being a step where students in each group jointly design an instructional package to develop the creativity of early childhood based on knowledge from step 1 as follows:

- 1) Students in each group use the concept and theory support reasonable referenced in designing instructional package to develop the creativity of early childhood.
- 2) Prepare teaching plans that are consistent with the instructional package, amount of 8 sheets, each plan consisting of concept attainment, aimed which should be objective on behavioral, content, instructional activities, teaching media and evaluation.
- 3) Students in each group create teaching media and instruments that suitable to the content and age of students to develop creativity.
- 4) Students in each group tested the instructional package with their classmates, lecturer, and classmates share opinions and suggestions to improve the instructional package before using it with students.

Step 3: Trail the process in school

Being a step where students contact and coordinate the school to apply developed instructional package in the school as follows:

- 1) Students in each group practiced in the school by lecturers coordinating with the school administrators, and the homeroom teacher is co-observing the planned classroom and giving suggestions to students. In this research, students applied the process with students of Kindergarten 2 and 3 at Wat Khao Khun Phanom School, Phrom Khiri District, Nakhon Si Thammarat Province and Pimpitayanusorn School, Mueang District, Nakhon Si Thammarat Province.
- 2) Students take the student's work to be graded according to the creativity assessment criteria so that lecturers assess the accuracy of students' creativity measurement
- 3) Students and lecturers jointly summarize the issue of improving and revising the achievement of the instructional package to develop creativity. Students report the results of the implementation of the instructional package and prepare user manual for instructional management plans and teaching media complete.

Step 4: Publishing the package and lesson summary

Being a step where students will show their work by presenting an instructional package as follows:

- 1) Presenting their work to be interesting, the accuracy of information and knowledge, having interesting strengths reflecting new concept.
- 2) Lesson summary by sharing, learning, summarizing knowledge, reviewing their work in each step. Lecturers will use questions to motivate and collaborate to discuss learning outcomes, lesson study approach and summarize what they have learned through action periodically and adding knowledge, understanding, discussion, reflection to improve learning management approach and classrooms to provide students to have competency of performance, cognitive, attitude and can be revised instructional package that can be used in instructional to develop creativity in early childhood for better results.

2. The results of competency enhancement of student teachers in designing instructional packages to develop early childhood creativity after using the developed learning management process.

2.1 Performance competency

Using the developed learning management process found that students have performance competency at four indicators, 14 assessed items at excellent level (scores 85% or above).

2.2 Cognitive competency

After using the developed learning management process, students have cognitive competency score from the test, which covered the course description content as appeared in Table 2.

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Table 2 shows that 42 students, representing 72.41%, have a very good level (scores 80 -100%), 16 students, representing 27.59%, have a good level (scores 70-79%)

Students self-assessed according to learning outcomes each subject in 5 aspects including (1) Ethics (2) Knowledge gained (3) Intellectual skills (4) Interpersonal skills and responsibilities and (5) Numerical analysis skills as shown in Table 3.

2.3 Attitude competency



Picture 2. Students trail the instructional package with friends.

Picture 2. Students trail the process in school.

Table 2. show cognitive competency

Score range as a percentage	Level	Cognitive competency	
		Number (person)	Percentage
80-100	Every good	42	72.41
70-79	Good	16	27.59

Table 3. show attitude competency

No.	Attitude competency	Self-assessment level		Meaning
		\bar{X}	S.D.	
1. Ethics		4.64	.40	highest
1.1	Accepts responsibility	4.60	.53	highest
1.2	On-time	4.58	.50	highest
1.3	Self-disciplined	4.62	.52	highest
1.4	Works well with others	4.78	.41	highest
2. Knowledge gained		4.68	.53	highest
2.2	Cognitive after class	4.68	.50	highest
3. Intellectual skills		4.58	.45	highest
3.1	Ability in work planning	4.55	.50	highest
3.2	Ability in problem-solving	4.57	.50	highest
3.3	Ability in thinking of presentation style	4.63	.52	highest
4. Interpersonal skills and responsibilities		4.61	.45	highest
4.1	Building a relationship between groups	4.72	.49	highest
4.2	Ability on being a leader	4.52	.57	highest
4.3	Ability on being a follower	4.60	.49	highest
5. Numerical analysis skills		4.63	.48	highest
5.1	Internet information searching skills	4.65	.55	highest
5.2	Skills in using communication technology	4.62	.52	highest
5.3	Skills in using equipment and IT for presentation	4.63	.52	highest
All aspects		4.57	.37	highest

Table 3 found that students have a very good level of attitude competency in all aspects. When considering each of the five aspects, which are ethical, the knowledge

gained, intellectual skills, interpersonal skills and responsibilities, and numerical analysis skills found that they are at a very good level in all aspects.

2.4 Student satisfaction with developed learning management

Table 4. show students' satisfaction with developed learning management

No.	Satisfaction assessment	Satisfaction level	Meaning
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		\bar{X}	S.D.	
1. Satisfaction with the learning management process		4.54	.43	highest
1.1	Instructional style	4.50	.54	highest
1.2	The sequence of instructional procedure	4.43	.56	high
1.3	Teacher's knowledge transfer is clear	4.68	.50	highest
1.4	Ability to explain the content	4.60	.53	highest
1.5	Suitability of instructional package	4.58	.53	highest
1.6	Documents and media support instructional	4.43	.59	high
2. Satisfaction on cognitive		4.55	.59	highest
2.1	The instructional process makes cognitive	4.55	.59	highest
3. Satisfaction on utilization		4.66	.38	highest
3.1	Able to apply knowledge gained to teach	4.70	.45	highest
3.2	Having confidence and ability to apply knowledge gained	4.55	.50	highest
3.3	Able to apply knowledge to publish/transfer	4.53	.50	highest
3.4	Trail the process with students	4.75	.44	highest
3.5	The developed instructional package can enhance creativity in early childhood.	4.75	.44	highest
4. Satisfaction on instructional management quality		4.65	.39	highest
4.1	You have benefited from participation in instructional worthwhile.	4.70	.46	highest
4.2	You can apply knowledge gained in daily life	4.63	.49	highest
4.3	Able to answer questions in instructional	4.57	.53	highest
4.4	You can develop an instructional package for promoting creativity	4.65	.48	highest
4.5	Able to hold activities to develop creativity for early childhood	4.72	.49	highest
5. Your satisfaction level overall is		4.68	.47	highest
All aspects		4.61	.34	highest

Table 4 found that students have the highest level of satisfaction on instructional management with the teaching approach affecting learning. When considering each clause, I found that it was at the highest level, except the sequence of the instructional procedure, Documents and media support instructional are at a high level.

Discussion

Research on the development of learning management processes to enhance the competency of student teachers in designing instructional package to develop the creativity of early childhood by using problem-based learning and lesson study approach has two issues for discussion are:

1. Development of developed learning management process has issues to discuss as follows:

1.1 Developed learning management process has conceptual support and systematic development. This learning management process uses problem-based, which is an essential approach to prepare students to face future changes, and students must be able to access data and change data to be uses in problem-solving by students must-have characteristic of courage which is a concept that most consistent with education management in the 21st century which believes that learning will take place when students have built self-knowledge from existing knowledge or from new knowledge gained. In the 21st-century classroom, teachers do not know a person who manages everything, and students must take action by themselves, build knowledge that arises from self-realization, and participate in active learning. Problem-based learning or PBL is a learning model that arises from the concept of constructivism learning theory

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by allowing students to create new knowledge from the use of problems that arise. That is, "Can creativity of early childhood be developed or not? and how can teachers design instructional package to develop the creativity of early childhood?" are learning context for students to build analytical thinking and problem-solving skills as well as obtaining knowledge according to the field of their study, that is a teacher in an early childhood education program at the same time. Therefore, problem-based learning results from the work process that requires understanding and problem solving principally. If looking in terms of teaching strategies, problem-based learning is a teaching technique that encourages students to take action and face problems by themselves. This allows students to practice various types of thinking skills such as critical thinking, analytical thinking, synthetic thinking, creative thinking, etc., when used to combine with the concept of lesson study approach that placed an importance on using lesson plans in the classroom, because lesson plans are one of the important instrument for teaching which comprises process in 3 phases as follows: 1) collaborate to create lesson plans for student teachers 2) collaborate to observe on teaching 3) conference to reflect the collaborative teaching (Inprasit, N. (2019). Once the researcher is used in the development of the learning management process by linking to designing instructional packages, therefore, students learn in practice that is well linked to instructional management in the classroom. Therefore, the developed learning management process has a systematic operation. That is, the learning management process has been developed step by step, and each phase is linked, starting from (1) drafting the learning management process by studying, analyzing, synthesizing from related documents (2) trail the learning management process (3) proved the learning management process. And use four key steps on learning management that students learn from actual practice, namely: (1) thinking and understanding problems together (2) instructional package designing suited to early childhood (3) trail the process in school and (4) publishing the package and lesson summary.

1.2 Strengths of the developed learning management process

The developed learning management process use problem-based and define competency-based that uses skills as a conductor, therefore, facilitates beneficial to quality development of students, helps to learn management aimed at developing students to achieve the desired competencies, not aimed at teaching a large amount of knowledge content which is not necessary or not useful to students. Students have developed a core competency that is essential to their professional life. That is, students in early childhood education programs can receive the instructional package to develop the creativity of early childhood and apply them in school, therefore being learning for the benefit, not just knowing only.

2. The results of performance competency enhancement of student teachers after using the developed learning management process has issues to discuss as follows:

2.1 The results of performance competency enhancement from this research, students have an excellent level of

(scores 85% or more). This is because the developed learning management process focuses on students working together in line with the real-life that students have to live with another, and students have understood that learning has many levels. Studying just to pass exams is mediocre if students want to achieve excellence. Students must be ready to face difficult challenges, but teachers are ready to stand by and help (Phanich, 2013). The developed learning management process adapts from knowledge which looks inactive, not awake to become an alert or active person. That is, students are an operator of learning, organizes what is self-taught until be able to design an instructional package to develop the creativity of early childhood and use it in school.

2.2 The results of cognitive competency enhancement from this research, students have a good level (scores 70-79%) and a very good level (scores 80% or more). This is because the developed learning management gives students an opportunity to understand vocabulary in question, catch the key issue, analyze problems, to discuss and explain each issue that what is the problem, how it happened, what is the background, learning issue, or learning objective, allows the student to have time to deepen learn required content and have an opportunity to practice using knowledge in designing instructional package, be able to use the concept and theory to support it reasonably, be able to refer, allowing students in active participation: intellectual, in which students can think, action by thinking by using their intelligence to create meaning, understanding from what have learned affecting students have a good and very good level of cognitive competency.

2.3 Results of attitude competency enhancement

The results of attitude competency enhancement from this research, students have the highest level in all aspects. This is because developed learning management allows students to interact, exchange, and learn with others. Students do not feel alone, have mental safety, active participation: emotional; this is to make students participate in learning activities that help students move emotionally or feelings. Therefore, students have a good attitude towards learning at the highest level, show that the activities and experiences in developed learning management process affecting mood, feeling of students in a way that facilitates learning by students feel that learning management process is meaningful to oneself and performance and can be practical, have worked together and been open to opinions of others that consistent with research by Triwanyanyoo (2017), indicating that lesson study approach helps to develop several other attributes such as pride, systematic thinking and working that affecting students were most satisfied with the developed learning process at the highest level also, both satisfaction on learning management process, cognitive, applying and instructional management quality.

Suggestions

1. Suggestions for applying research results

1.1 Administrators of the Faculty of Education are important people in supporting and promoting to have learning management for student teachers on a competency-based. Therefore, the curriculum and competency should be analyzed by students before teaching to gain professional experience.

1.2 In learning management, lecturers should define the competency that they want to achieve with students and

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shall adjust their role from a teller or knowledge transfer to be a facilitator who helps, supervises, and encourages students to learn and find answers, learn from existing problems and build knowledge for themselves, learn from practice, select problems or content that will encourage students to study in-depth and broader.

1.3 Learning management should focus on competencies, aiming for students to be able to perform real work. Therefore, lecturers must be clear about what competencies they want to develop for students, open those competencies to make it clear as concrete that what students need to know.

2. Suggestions for further research

2.1 This research defines that students in the early childhood education program have specific competencies in designing instructional package to develop the creativity of early childhood. Therefore, it should have research to develop competencies in other aspects as well.

2.2 This research uses problem-based learning and lesson study approach in developing the competencies of students; therefore, other models of learning management should be studied in developing the competencies of students as well.

2.3 This research was conducted only for students in the early childhood education program by lecturers should be clear that what competencies they want to develop for students.

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